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10/060,694	01/30/2002	Ronald Dean Cramer	8837Q	7032

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EXAMINER

PADGETT, MARIANNE L

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 10/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/060,694

Applicant(s)

Cramer et al

Examiner

M.L. Padgett

Group Art Unit

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— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☒ Responsive to communication(s) filed on 1/28/03
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 111; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-11 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-11 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some* ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____.
- ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). (1/28/03)
- ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

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1. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Use of relative terms that lack clear metes and bounds, in the claims, is vague and indefinite unless defined clearly in the specification as relevant cited prior art. In the claims, "high", modifying "high energy" (claim 1, line 3) is relative with no defined bounds. While it is used in the paragraph-budging page 9-10 in the specification, this disclosure provides no definition.

In claim 1, line 5 "nano particle" is of uncertain scope. Page 12 of the specification provides teachings on useful sizes (≤ 750 nm), but does NOT define what limits are placed on the size of what is called a "nanoparticle."

In claims 9-11, what is a "gush," i.e. what size, volume, etc., of liquid does this define? To the best of the examiner's knowledge, it is not a unit of measurement, and page 48-49 which defines the "Strike Through Test", discusses using 5 ml gushes, which suggest that a "gush" is an undefined quantity in the claims. Also, what happens in the claimed time is not clear from explanation found in the specification.

In claim 3, dependant from 2, "the structural component" lacks any antecedent basis, as the term has not been introduced, and its only association with proceeding claim limitations, is to the optionally claimed "such as a non-woven material," which need not actually be employed, i.e., unless the optional of non-woven is chosen, none of the limitations of claims 3-5 need be met to read on claims 2-5. (PTO management in 1700 has determined that double ranges as in claim 2 are OK, but it must be remembered that all that is needed to read on such a claim, is the broadest claimed limitation, and that to require the narrow species, it needs to be positively claimed).

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In claim 7, bridging lines 1-2 "on or more" is non-idiomatic and would appear to be a typographical error for --one or more--.

In claims 8-11, "the treated non-woven material" or "said...non-woven..." lack any antecedent basis, as no such material has been introduced in claim 1, and consequently they have no clear relationship to the steps of the independent claim.

2. The references of the IDS listed in PTO-1449 of 1/28/03 are made of record, and it is noted that none of the references cited appear to have any teachings on pre-treating substrates before applying particles or nanoparticles.

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1 and 6-7 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Verschueren et al (6,045,969).

Verschueren et al teach plasma treating a hydrophobic substrate, such as polyolefin (e.g. polyethylene) coated paper, so as to improve the adhesion of the subsequently applied hydrophilic layer, which preferably contains materials, such as colloidal silica with average particle size up to 40 nm (e.g. 20 nm) or metal oxide particles, such as Al_2O_3 (>100 nm) or TiO_2 (0.3-0.5 μ m or 300-500 nm). See the abstract; the summary; column 2, lines 47- column 3, line 40; col. 4, lines 8-23 and Example 1, column 7, line 63- column 9, line 43, esp. column 7, line 66-67, column 8, line 8-19 and Table 2.

With respect to applicants' claim 7, it is noted that all particles will fit into one of the claimed options.

5. Claims 1 and 6-7 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Huang (5,073,404).

In Huang, see the abstract; claims 1-2; column 2, lines 42-66; column 3, line 57- column 4, lines 3 and 56- column 5, lines 9; column 8, lines 17-30 and 60- column 9, line 10; and column 11, lines 3-15,

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for corona pre-treatment of a substrate material, in order to improve adhesion, of subsequently applied coating comprising 10-80 wt.% silica sol (particle sizes ≤ 50 nm, etc.), and is hydrophilic.

6. Claims 1 and 6-7 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ohta et al (4,128,426).

Ohta et al ('426) teach treating a hydrophobic film to a hydrophilizing pre-treatment step, such as electron bombardment, UV radiation, flame treatment, corona discharge, etc., followed by deposition of a copolymer dispersion in which the particle diameter of the copolymer is preferably 0.15 microns (i.e. 150 nm). See the abstract; column 1, lines 5-40; column 2, lines 29-47; column 3, lines 35-45⁺; column 5, lines 20-37; column 7, lines 54-68⁺; column 8, lines 48- column 9, line 45; Examples 1 (in column 10⁺, corona); Ex. 2 (column 12⁺, UV); Ex. 3 (column 13⁺, UV), etc.

7. Claims 1-2 (3-5) and 6-7 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kasugai et al (3,660,142).

Claims 3-5 & 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusugai et al.

Kasugai et al teach a process for improving the wet ability (i.e. hydrophilicity) of a photographic base material, which may be polyethylene (PE) coated paper or cloth, where corona discharge treatment is carried out on the base material, which shows decreased contact angles in claimed ranges. The treated substrate is then coated with a photographic light sensitive material, in which average particle size is taught as 0.1 micron, i.e., 100 nm. See column 1, lines 5-20, column 3, lines 22-30; and Examples 1-2, esp. column 3, lines 53-76 and column 4, lines 18-30 and 46-50. Note that as applicants' claim 2 "comprises textile", the laminated PE coated cloth, reads in this claim.

Kasugai et al differs from the applicants' claims, by not discussing whether the cloth base materials is woven or non-woven, however their generic disclosure is inclusive of both, and one of ordinary skill in the art would have found non-woven cloth base material as obvious option, because it is

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the cloth type that is most similar to paper, which is the base material used in Kasugai et al's examples, hence suggestive of non-woven cloth for the taught option of using a textile.

Kasugai et al did not perform a "strike Through Test" and the PTO cannot perform such test. Also, while pages 48-49 of applicants' specification defines what the steps of this test are, it does not explain what is meant by a strike through time, so what happens in the times in applicant's Table 5, cannot be properly determined, nor what times for this test would likely be produced on other products. However, as there are no significant or unobvious differences between the Kusugai et al process and applicants' claims as written, for Kasugai et al process and applicants' claims as written, Kasugai et al's process using non-woven base material would have been expected to have like values if tested, as critically different steps or materials are not employed.

8. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Onodera et al (6,602,812B1).

Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onodera et al.

Onodera et al teach irradiating non-woven polyolefin, such as PP or PE, with radiation and oxygen, such as an electron beam, (or background teaches plasma has been used), to make the non-woven polyolefin substrate's surface hydrophobic. This treated material is then used to remove leukocytes from blood, which is considered to read on the step of applying plurality of nanoparticles, because leukocytes, i.e. while blood cells may be considered particulate in nature, and of a size small enough to be called nanoparticles. When the blood is applied, so are the leukocytes, thus reading on the process as claimed. See the abstract; column 1, lines 14-21, 30-43 and 60-67; column 2, line 52- column 3, line 20; column 4, lines 8-67; column 6, lines 6-42; column 8, lines 37- column 9, line 2, esp. lines 65+; and Example 1+ on column 9-10, or comparative example 4 using plasma on column 14.

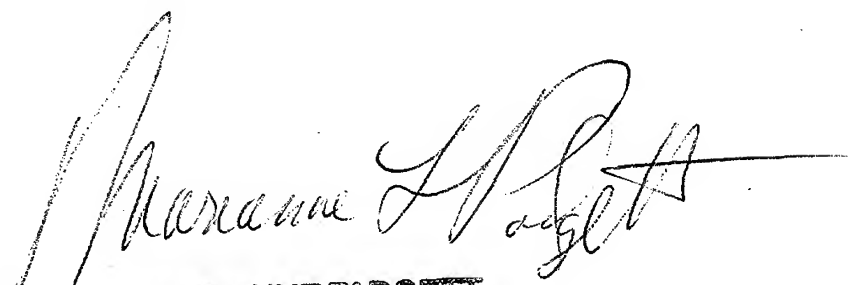
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While Onodera et al discuss increased wettability, by percentages, this is a different way of measurement than the claimed contact angle or the strike though test (STT), however one of ordinary skill in the art, would have found it obvious that the 40% to 30% hydrophilic factor of Onodera, or the smaller initial one of the comparative plasma, where comparable to applicant's claimed contact angle range, due to taught hydrophilic effects. The same consideration for the STT, as discussed at the end of section 7, above, also apply here.

9. The applications to Crammers, as represented by publications 2002/0150678 A1 and 2003/0148684 A1 are noted to have very close claims to the present ones, where the 2003 differs by not specifying size, and applying charged particles, and the 2002 does not require energy treatment or hydrophobic/hydrophilic characteristics. This latter case is noted to have been allowed, but not yet issued, and the current version of the claims is not available to the examiner, but must be reviewed for judicial double patenting when available.

10. Any inquiry concerning this communication from the examiner should be directed to M. L. Padgett whose telephone number is (703) 308-2336. The examiner can generally be reached on Monday-Friday from about 8:30 a.m. to 4:30 p.m.; and fax phone numbers are (703) 872-9306 (Official); and (703) 305-6078 (unofficial).

M.L. Padgett/dh 9/29/03
October 3, 2003



MARIANNE PADGETT
PRIMARY EXAMINER